

BASIS FOR THE AMENDMENT

Claims 7-25 are active in the present application. Claims 22 and 23 finds basis at page 6, lines 4 to 6 of the specification. Claims 24 and 25 find basis at page 10, lines 21 to 23 of the specification. No new matter is added.

REMARKS

Favorable reconsideration of this application is requested.

Claims 14-17 stand objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claims and any intervening claims.

Claims 7, 9-12, 18, 19 and 21 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Yoshiaki et al. in view of Watanabe et al.

Claim 8 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over this same reference combination in further view of Ueno et al.

Claims 7, 13, 18, 19 and 21 also stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Yoshiaki et al in view of Hirai.

Claim 20 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Yoshiaki et al in view of Watanabe et al further in view of Tamura et al.

These rejections are traversed. The invention relates to an optical information medium, comprising a supporting substrate, an information-recording surface provided on the supporting substrate and a light-transmitting layer provided on the information-recording surface, wherein:

the light-transmitting layer comprises a light-transmitting sheet formed of a resin and

an adhesive layer containing pressure-sensitive adhesive for bonding the light-transmitting layer to an associated side of the information-recording surface; and

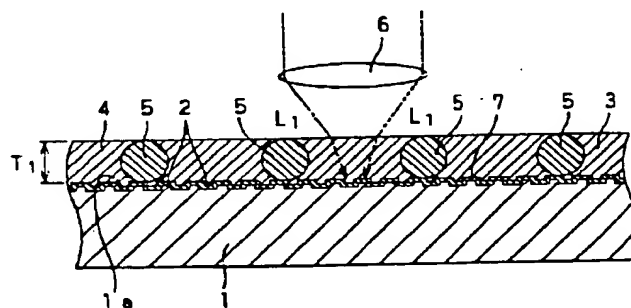
the light-transmitting sheet is formed of one resin selected from the group consisting of polycarbonate, polyarylate and cyclic polyolefin.

Yoshiaki et al., the primary references relied upon by the Examiner in all of these rejections, in its Abstract relied upon by the Examiner discloses the following:

PROBLEM TO BE SOLVED: To improve thickness precision, to cope with high recording density, to suppress wave front aberration and to improve a recording/reproducing characteristic by forming a light transmission layer on an information recording layer after diffusing spacer particles into its resin.

SOLUTION: The light transmission layer 3 is formed on an upper surface of a reflection film 7 constituting the information recording layer on a main surface 1a of a transparent substrate 1 after dispersing ball-shaped spacer particles 5 into photosetting resin 4. The spacer particles 5 are made of material of glass, etc., whose hardness is harder than the resin 4 in a setting state, and having an optical characteristic equal to the resin 4, and whose particle size is made nearly equal to required thickness $T(\text{sub } 1)$. In its manufacture, the resin 4 beforehand dispersing the spacer particles 5 is pressurized by a rolling roller until its thickness becomes equal to the size of the spacer particles 5 to be formed. Thus, the light transmission layer 3 of the uniform thickness according to the height of the spacer particles 5 is thinned precisely to the required thickness, and the high NA formation of the objective lens copes with.

Its Fig. 1 is as follows:



As is evident from this Abstract, the spacer particles 5, made of a material such as glass, manifestly do not function as pressure-sensitive adhesive nor do they comprise a pressure-sensitive adhesive. These particles, whose hardness is harder than the resin 4 when set, serve to control the thickness of the light transmission layer 3 to be of uniform thickness corresponding to the height of these spacer particles. The spacer particles do not in any way serve as adhesives.

The Examiner states that Yoshiaki et al disclose "dispersed spacer pressurized particles made of resin, where the pressurized particles are bonding material". It is not apparent how and why "spacer pressurized particles" are "bonding materials", i.e., that they are a pressure-sensitive adhesive, as in the claimed invention. Manifestly, such is not the case. These particles, made of glass, clearly do not serve as a pressure-sensitive material, nor are they intended to be present for such a purpose. They are present only for the purpose of providing a uniform thickness of the transmission layer 3 when such transmission layer is thinned to the required thickness. Contrary to the Examiner's assertion, "spacer pressurized particles" are not bonding materials, they are clearly not functioning, nor are intended to function, as pressure-sensitive adhesive. The Examiner's basic presumption on which his rejections are predicated thus manifestly is not supported by the teaching of the reference. *True*

Further, even if Watanabe et al. is combined with Yoshiaki et al., Applicants' discovery is not made obvious thereby. Even though the magneto-optical disc of Watanabe et al. may comprise a light-transmitting adhesive layer and a light-transmitting plate, nevertheless, no pressure-sensitive adhesive is disclosed by the reference for the claimed purpose. As a matter of fact, as so specifically disclosed and claimed in this reference (note Column 12, lines 29-31), the light-transmitting adhesive layer is a photo-curable resin. No suggestion is present in Watanabe et al. for the adhesive layer being a pressure-sensitive

adhesive layer. Thus, even combining Watanabe et al. with Yoshiaki et al., no *prima facie* case of obviousness is made out by the combination of these references.

Moreover, any possible *prima facie* case of obviousness is rebutted by the comparative evidence in the case. Note Table 1 at page 13 of the specification, reproduced below:

Table 1

Sample	Bonding Means	Material for Light-Transmitting Sheet	Light- Transmitting Sheet Making Process	Thickness Profile (μm)	Amount of warpage (deg)	Double Refraction (nm)
No.						
1	Pressure-Sensitive Adhesive	polycarbonate	Casting	2	0.20	20
2	Pressure-Sensitive Adhesive	polycarbonate	Melt Extrusion	4	0.22	130
3 (comp.)	UV-Curing Adhesive	polycarbonate	Casting	14	0.72	40
4 (comp.)	UV-Curing Adhesive	polycarbonate	Melt Extrusion	18	0.75	200
5 (comp.)	UV-Curing Adhesive	—	—	25	Unmeasurable	10
6	Pressure-Sensitive Adhesive	Cyclic Polyolefin	Casting	3	0.24	15
7 (comp.)	UV-Curing Adhesive	Cyclic Polyolefin	Casting	17	0.65	25
8	Pressure-Sensitive Adhesive	Polyarylate	Casting	3	0.26	30
9 (comp.)	UV-Curing Adhesive	Polyarylate	Casting	20	0.68	40

As is evident from the results set forth in this table, by direct comparison with the closest prior art wherein the adhesive layer is a photo-curable resin layer, unobviously superior results are obtained. It is theorized that the photo curing process leads to shrinkage in the final optical information medium product (page 2, lines 19-22).

Thus, by comparisons of No. 1 with No. 3, No. 2 with No. 4, No. 6 with No. 7 and No. 8 with No. 9, it is apparent that the uniformity, amount of warpage and index of double refraction of the light-transmitting layer are strikingly improved by bonding the light-transmitting sheet to the side of the supporting substrate using the adhesive layer. From a comparison of No. 1 with No. 2, it is also apparent that the increase in the birefringence of the polycarbonate sheet can be almost totally reduced by combining the polycarbonate sheet with the adhesive agent.

The Examiner apparently recognizes superior results for the claimed invention when compared to the use of an adhesive layer which is photo-curable. Thus, his refusal to consider such superior results predicated on his assertion that the use of a pressure-sensitive adhesive is taught by the prior art clearly is not well taken. Unobviously superior result-effectiveness has been demonstrated, and the Examiner's rationale and basis for his rejection that the use of a pressure-sensitive adhesive is known has been rebutted. Moreover, as stated in the present specification on page 2, line 32 to page 3, line 22, the use of photo-curable resins leads to lack of optical uniformity. JP10-269624 (Yoshiaki et al) is specifically noted for its deficiencies. The rejection thus clearly is not sustainable.

With regard Ueno et al. additionally relied upon by the Examiner, it is subject to the same deficiency as is Watanabe et al. Thus, at Column 5, lines 8-10 referred to by the Examiner, it is disclosed that:

...the protective plate 6 was formed by adhering the acrylic resin plate with an

ultraviolet curing acrylic resin adhesive. (emphasis added).

No pressure sensitive adhesive is disclosed by Ueno et al., thus clearly not making obvious the claimed invention even when considered in light of the teaching of this additional reference. As mentioned before, Applicants' showing that the claimed optical recording medium comprising a pressure sensitive adhesive is superior to a corresponding article comprising a photo-curable resin directly evidences these superiority of the claimed invention with respect to the closest prior art.

The Examiner relies on Hirai for its teaching that a light-transmission substrate may be a polycarbonate or a polyarylate having a thickness of 0.1 to 10 mm. (Column 4, lines 41-55). However, even combining the teaching of Hirai with Yoshiaki et al., the claimed feature of the light-transmitting layer being bonded to an associate side of the supporting substrate by means of a pressure-sensitive adhesive layer manifestly is not obvious from the combination of these references, for reasons as pointed out above.

With regard to Tamura et al., it is relied upon by the Examiner only for asserted obviousness of a subsidiary claimed feature. As such, it manifestly does not remedy the inadequacies of the other references to make obvious Applicant's discovery.

It is submitted that all of the claims in the case, not only Claims 14-17 considered allowable by the Examiner, define a patentable invention. Their allowance is solicited.

Respectfully submitted,

OBLON, SPIVAK, McCLELLAND,
MAIER AND NEUSTADT, P.C.



Norman F. Oblon
Registration No. 24,618
Attorney of Record



22850

(703) 413-3000
(703) 413-2220 (fax)

NFO:SUK:krs
I:\atty\suk\2003\April\00831131-am.wpd

0083-1131-0

Marked-Up Copy

Serial No: 09/531,449

Amendment Filed: HERewith

IN THE CLAIMS

Claims 22-25 (New).